54 TAT	108 CTC	162 TTC	216 GAG	270 CTC L	324 AAT N	378 GAA E	432 TAT Y
GCT	CCT	TCA	SSS	GTG V	CAT H	GAA	AAC N
CCT	CCC	TTT	CAA	TTA L	CTA	GCA	AGC S
45 AAC	99 CCG	153 TCC	207 ACC	261 GTG V	315 TCT S	369 GAA E	423 CAG Q
ညည	GTC	TCC	GTG	CTG	AAA K	GCT A	GGT G
CGC	CCA	TAC	GCT	ATT I	GAC	ATT I	CCA
36 GCG (	90 CGC	144 TTT	198 CGG	252 TGG W	306 CAA Q	360 CAG Q	414 AAC AAG 0 N K 1
သသ	AGC	TGT	CGC	ACT T	AGC	GAA E	AAC N
ACT	TGC	TCC	CAG	9 9	GGA	AAT N	GAA E
27 TTG	81 TCC	135 TCT	189 GCC	243 ACC T	297 GGA G	351 TTG L	405 CCA GAA 7 P E N
GAC	AGA	Sec	GGA	999 9	CCT P	CCT	CCT
GGA	CAG	CCT	CCA	CTC	AAA K	AGA R	TAT Y
18 CCT	72 TGT	126 CCT	180 GCT	234 TTC F	288 CCC P	342 GAA E	396 ACA ' T
CTA	GAG	CAC	ACA	999 9	TTC F	GCA A	AAA K
CCT	GTC	ACC	GCT	ATG M	GCT A	AGT S	AAA K
9 TCC	63 ACC	117 CAC	171 AAA	225 AGA	279 CAA Q	333 TTA L	387 ATT [
CAG CGC	TTG	သသ	ATA ACA	CGT GGA	279 ATT CAA I Q	GAA E	AAG K
CAG	သသ	Ð	ATA	CGT	CCG	AGA GAA '	GAC AAG Z D K
5-							

### FIGURE 1A

9 E	O (1)	₹ =	m 4	O1 E4	10 Fu	O 75
486 ATT I	540 GTG V	594 ACT T	64 CTZ L	702 ATT I	75( AA) N	810 GAG E
AAA K	AAT N	TCT	CAA Q	AGG R	CTT	GCA A
GAA E	TTG	GAC D	CAT H	GCC A	CTA L	GTA V
477 AAG K		585 TAT Y	639 CTT L			801 GAA E
GAA E			GGT	ATC I	TCT	GAT D
ACA T	GAT D	GAT D	GAT D	AAA K	GTT V	GAA E
468 ATA I	522 CTT L	576 ATC I	630 CCA P	684 CAT H	738 ATT I	792 CTG L
	CCA P	CTG	GAT D	GTC V	AAG K	ACA T
AAG K	TCC		GAT D	ATT I	GAC D	CAT H
459 CTA L	513 AGC S		621 CAA Q	675 GAC D	729 TTT ( F	783 GCA A
CTG	AGA R			GAA E	GTG V	CAA Q
AAC N	ATA I	AAG K	AAA K	GCT A	GCC	AGC S
450 TTG L	504 TCT S	558 ACC T	612 CAT H	666 ACC T	720 AGA R	774 GAA E
AAC N	CAA Q	TCA	GAT D	TTA L	GAC D	ACA T
GAT D	AGA R			CCT P	AAT N	ATC I
441 GTT V		549 GTT V	603 GGA G	657 ACT T	711 GAA E	765 CTT L
TCT TTT S F	AAA K		AGT	999 9	GAA E	9 9
TCT	GAG	GAA E	AAG K	GAC	TAT Y	CTC

#### FIGURE 1B

864 AAT N	918 ACT T	972 GTA V	981 1017 1026 ACA TTA ACC TTG ACA AAT GGC TTG GAA AGG AGA ACT AAA ACC TAC AGT T L T L T N G L E R R T K T Y S	080 AAA K	134 ATG M	188 CCA P
CCC	GTG V	ACA T	1 TAC Y	1 CTG L	ATC I	1 TCT S
GAT	AAA K	GAA E	ACC	CTA L	ACT T	ATA I
855 GAG E	909 GAG E	963 GAT D	1017 AAA K	1071 GCG A	1125 ATT I	1179 ACA T
GAG	CCA P	AAC N	ACT	TAT	CTG L	GGA G
TAT Y	ATA I	GAA E	AGA R	TTC	ACA T	TAT Y
846 AAT N	900 AAA K	954 GGA G	1008 AGG R	1062 AAT N	1116 GAA E	1170 AAA K
AAC N	GGA G	AAG K	GAA	CCA	J AAA K	1 GTG V
GCC	GCT A	GCT	$ ext{TTG}$	TTC	GAG E	ATG M
837 GAA E	891 CAG Q	945 CTT L	999 GGC G	1053 TAT Y	1107 AAA K	1161 ATG M
AAG K	AAT N	GGT	AAT N	CAA	GCA	AAG K
TCA	GAG E	GAT D	ACA T	CTC	GAA E	GTG V
828 ATC I	882 ACT T	936 CAA Q	990 TTG L	1044 GAA E	1098 AAA K	1152 TTT F
TTA L	TGG W	ATT I	ACC	GAG E	GAA	GAC D
AAA K	AGC	GCA A	TTA L	TTT F	TCA	ATT I
819 CAA Q	873 ACA T	927 GCA A	981 ACA T	1035 AAC N	L089 GAT D	1143 CTG L
TTA L	CCC	ATG M	AAC N	GAC D	, ATT I	ACA T
GTT V	AAG K	CCA P	981 TCT AAC ACA 'S	GAA E	AGT	AAA K

#### FIGURE 1C

_					
1296 GCA A	1350 AAG K	1404 AAC N	1458 GCC A	1512 GAA E	1566 TAT Y
CCA P	GCT	TCC	GAA	AAA K	GCT A
TTC	GCA A	AAC N	TTG	AAT N	GAT D
1287 CTT L	L341 GAA E	.395 GAT D	.449 TAT Y	.503 GGA G	.557 GCT A
AAG K	GAA E	1 GAT D	GCC A	1 AAG K	1 CAA Q
AGC	AAG K	AAA K	GAA E	AAA K	AAA K
278   ATA   I	.332 ACC T	.386 ACA T	.440 ACA T	494 GAC D	548 AAT N
) AAT N	AGT S	TCC S	1 AAA K	1 CAT H	1 ATC I
GAC D	GAC D	GAT D	GGA	AAA K	TTC
1269 ACT T	L323 ACA T	AAG K	.431 AAA K	.485 AAG K	.539 GAC D
GCT	GAA E	1 TTG L	1 CCC P	1 TTG L	1 AGA R
AAT N	GAA E	AGC	GAA E	TGG W	ATG M
1260 AAA K	L314 CAT H	.368 GGA G	.422 GAT D	.476 GAA E	.530 AAG K
GAA	AGT S	1 TAT Y	1 ACA T	1 ATT I	1 TCA S
CTA L	AAG K	GAA E	AAG K	AAT N	CTT
1251 AAG K	1305 GAG E	1359 AAG K	.413 GGA G	.467 AAA K	.521 GAC D
AAC N	TCA S	1 GAA E	1 GGA G	1 AGA R	1 TAT Y
AAA K	CCA P	ATG M	CCA P	ATC I	1521 GAT TAT GAC D Y D
	1251 1260 1269 1278 1287 1296 AAA AAC AAG CTA GAA AAT GCT ACT GAC AAT ATA AGC AAG CTT TTC CCA GCA K N K L E K N A T D N I S K L F P A	AAA AAC AAG CTA GAA AAA AAT GCT ACT GAC AAT ATA AGC AAG CTT TTC CCA GCA GCA K N K L E K N A T D N I S K L F P A A A A CCA GCA GCA TCA GAG AAG AAG AAG GAA GAA ACA GAC AAG GAA GAA	AAA AAC AAG CTA GAA AAA AAT GCT ACT GAC AAT ATA AGC CTT TTC CCA GCA ACT ACT GAC AAT ATA AGC AAG CTT TTC CCA GCA GCA ACT ACT GAC AAT ATA AGC AAG CTT TTC CCA GCA GCA ACT ACT GAA GAA GAA GAA GAA GAA GAA GAA GAA GA	AAA AAC AAG CTA GAA AAA AAT GCT ACT GAC AAT ATA AGC AAG CTT TTC CCA GCA CAAC CTA CTA CTA CTA CTA CTA CTA CTA	1251

#### FIGURE 1D

<b>О</b> Г.		00 FD	4	
1620 TAT Y	1674 1 AAA	728 AAG	1782 A AAA	1836 GAA
E E	1 33	1728 CCC AAG	1, [A]	7 T (
ÄΗ	A(	. 8	E	G
CGC R	TTC	TGA	TGG	TAA
1611 : AAG K	1665 TGT	1719 : TTT	1773 2 AAG	1827 ATG
IC I	AC AC	1 TT	1 AC	1. 1. 1.
ÆΗ	₹	A A	H	Ţ
GC(	ŢŢ	AAZ	TTT	AGI
1602 GAG	1656 ; TCT	1710 3 ATT	1764 A ACC	1818 TAA
1584 1593 1602 1611 1620 ATC CTT GAC AAG GAA GAA GCC GAG GCC ATC AAG CGC ATT TAT I L D K E E A E A I K R I Y	1638 1647 1656 1665 1674 TAA AAA TGG CAA AAG ATC CAG GAG TCT TTC AAC TGT TTC AGA AAA	1692 1701 1710 1719 1728 GCT TAA AAC ACT TCT AAT TCT GTG ATT AAA ATT TTT TGA CCC AAG	1746 1755 1764 1773 1782 AAA GTG CTG AAT TTA CAG TAG TTA ACC TTT TAC AAG TGG TTA AAA	1800 1809 1818 1827 1836 CCC GTA AAA ACT ATC TGA AAG TAA AGT TGT ATG TAA GCT GAA
JAA	'AG	ĹŢ	'AG'	GA .
3 A G	ر د د		G 7	O D
1593 3 GAA E	1647 3 ATC	1701 P AAT	1755 A CAG	1809 ATC
AAG	AAG	TCT	TTA	ACT
GAC	CAA	ACT	AAT	AAA
1584 CTT L	1638 TGG	1692 A AAC	1746 ; CTG	1800 GTA
15 IC (	16 44 3	16 4A A	17 IG 0	18 30 00
ÄΗ	Z.	, T2	5	
6 GGC 7	TAA	GCI	AAA	CTT
1575   AAA   K	1629 CTG L	1683 ' ATA	1737 TAG	1791 : TTT
1575 GTG GAG AAA V E K	1629 AGC AGC CTG S S L	1683 CAT AAT ATA	1737 GGT TAT TAG	1791 CAT AGC TTT
5. T	ž Ž	T.	ŢŢ	Z L
G.	AG S	C.P.	99	CA

AAA AAA 3'

#### FIGURE 1E

54 ATC	108 AAG	162 CAG	216 CGG	270 GCC	324 AGT	378 CGG	432 GCG	486 GTA
ATG	GTC	JCC	GAT	CCC	999	CCC	CAA	GGA
ACC	GCT	CTC	GCA	ACT	GAA	SSO	TGG	AAA
45 GCT	99 CGG	153 CAA	207 GAG	261 CTC	315 CGA	369 GGC	423 GAT	477 AGA
GCT	SCC	CTC	CTG	AAA	CGA	TCT	TCT	TGG
GCT	TCG	CTC	AGA	999	CGA	CGC	TCC	468 CCC TAG
36 36	90 TTC	144 CAC	198 CCG	252 CCA	306 TGG	360 GCG	414 GCC	468 CCC
ACC	CTC	CGC	AGT	CTC	TCA AAA	GAA	CTG	CTC
SCC	GGA	SSS	CCA	CCC		AAG	CC	ACG
27 CCA	81 CAG	135 GCC	189 CAA	243 GCT	297 AGC	351 ACT	405 ACA	459 CGA
TTC	CTG	TCT	CAA	CGC	ACC	CCT	GGG	TTG
CAC	TTC	ACC	GCG	AAG	GTC	CCA	TAG	$\mathcal{D}$
18 TTT	72 TGC	126 ATC	180 AGC	234 GCC	288 ACA	342 CAT	396 CGC	450 CAC
500	TGA	GAC	990	AGC	သည	CAC	CCC	CCA
GCT	999	CCA	AGC	AGA	500	GAC	ACC	TCC
9 CTG	63 CCT	117 CTC	171 CGG	225 GGG	279 CAG	333 TCC	387 GTC	441 ACC
ອວວ	CAG	GAA GGG	CTC AGC	GGG GAG	TCC	CGC	TTG	သည
9 CAG CCG CTG	TGC	GAA	CTC	GGG	TAC	SSS	CGA	CTG
5.								

#### FIGURE 2A

_ 4							
540 GAA	594 CGG	648 AGG	702 GGC	756 TCA	810 GAT	864 CGC	918 AGC S
m TTT	ACT	TGC	GTT	SCC	CCC	သသ	TTG L
TCC	GGA	CTA	ATG	$\mathcal{D}\mathcal{D}$	550	LLL	GGT
531 ATT	585 GAG	639 TTC	693 AAA	747 CGC	801 AGG	855 TTC	909 TTT F
TTG	299	TTC	SOO	CAA	990	CAT	CTG
AGC	GTG	CGA	TGG	GCT	TGG	TCG	999
522 AGA	576 CCA	630 CAC	684 GCC	738 GTT	792 GCG	846 CAG	900 GCT A
TTT	TCC	TGT	TCA	AGG	ATA	GCA	GCG
CTT	CTT	AAA	TTC	AAG	TAT	DDL	ATG
513 CCG	567 CCT	621 ACC	675 AAT	729 GCA	783 ACC	837 AGC	891 GTC
GGC	CTG	TCC	AGA	GAG	999	TGC	TCT
CAG	GCT	GTA	ATA	CTG	TCT	CAC	CCA
504 GGG	558 GAA	612 ACT	666 TCA	720 CAA	774 AGA	828 ACC	882 GCA
TTC	505	GGA	CCA	CGA	ATC	CGC	GCA
CAA	CTA	CTG	GAC	CCA	CAA	GCT	CCT
495 AGC	549 AGA	603 TGG		711 AAG		819 CGC	
GCT ATT	549 GAT GAA AGA	GGC GAT	657 AAA TGA GCA	CCC ACG	765 GAA AAC	TGT	TGA
GCT	GAT	GGC	AAA	$\mathcal{C}\mathcal{C}\mathcal{C}$	TTG	GAT	222

#### FIGURE 2B

972	1026	1080	1134	1188	197 1206 1215 1224 1233 1242	1296
GTC	GGA	GAC	GTT	CTG	GCC AGC ACC TTT GTG GCC TAT CTG CCT GAC TAC AGG ATG AAA GAG TGG	CCC
V	G	D	V	L	S S T F V A Y L P D Y R M K E W	P
CGC R	GCG	GAG E	CCC	ATC	GAG	CTT L
GCC	GTG V	CCC	GAC D	ATC I	AAA K	
963	1017	1071	1125	1179	1233	1287
GCC	GCT	GAA	AAG	TCC	ATG	AAT
A	A	E	K	S	M	N
CCG	TCC	CCA	GAC	GTC	AGG	GCC
CTC	CCG	GAC D	${\tt TAT} \\ {\tt Y}$	99C 9	TAC	GAG E
954	1008	1062	1116	1170	L224	L278
GGG	GCC	GAG	GGT	TTT	GAC	CGA
G	A	E	G	F	D	R
CGA R	GTC	CAA Q	CAT H	TTC F	CCT P	1 TAC Y
ACG T	GTG V	TGG W	TCC	TTC F	CTG	AAA K
945	999	1053	1107	L161	1215	.269
GCG	ACT	CCG	GAC	GTC	TAT	GTG
A	T	P	D	V	Y	V
GCG A	AGG R	ACA	CCA P	CTT	GCC A	CTT L
GCA	TCC	ACC	AAC	CGA	GTG	AGG
A		T	N	R	V	R
936	990	L044	.098	.152	.206	.260
GCG	TTC	CCG	AAG	ATG	TTT	GAG
A	F	P	K	M	F	E
${ m TTG}$	AGC	GAA E	J GAG E	AAC N	1 ACC T	1 GCT A
CTT	TCT	CCA	TAT	TGG	AGC	GAA
L		P	Y	W	S	E
927	981	L035	1089	L143	.197	.251
CGT	GAA	CCC	AAC TTG	GTC	GGC	CGC
R	E	P	N L	V	G	R
GCT CGC	TGG	CGG	AAC	GAC	CTT	CGC
	W	R	N	D	L	R
GCT A	981 CGC TGG GAA R W E	1035 AAG CGG CCC K R P	GAA Z	1143 TTG GAC GTC L D V	1197 GTC CTT GGC V L G	1251 TCC CGC CGC S R R

#### FIGURE 2C

1350	GAT GAG	闰	1404	CCC TGC CTG		1458	GGC TGA AAG TCT GAA AAA
	GAT	Ξ Q		TGC			GAA
	GAG	田		သည			TCT
1341	CCA	S K I Q L P	1395	TTC CCC ACC	•	1449	AAG
	CTG	H		CCC			TGA
	CAG	O,		T			$\frac{\partial}{\partial G}$
1332	ATC	Н	1386	ACC GCC	•	1440	AGA GCA CCT AAT TAA AGG
` '	AAG	×		ACC		` .	TAA
	AGC	Ŋ		AGC			AAT
1323	TTC GAC CCC.	Ъ	1377	AGA		1431	CCT
77	GAC	О	7	TCA	•	_	GCA
	TTC	ഥ		GGC TCA AGA			AGA
1314	1GC	ט	1368	TGG	,	1422	CIC
` '	AAC	Z	` '	AAG		` '	CTT
	TCC AAC TGC	ß		GCT AAG TGG			CCT CTT CTC
		田	1359			1413	
7	ATC ATG GAA	Σ		IGA CCA GTT		$\leftarrow$	CCA TTC TGA
	ATC	Н		TGA			CCA

AAA AA 3'

#### FIGURE 2D

$\leftarrow$	MGFLGTGTWILVLVL PIQAFPKPGGSQ 2379427 MGFLWTGSWILVLVLNSGPIQAFPKPEGSQ GI 413764
33	DKSLHNRELSAERPLNEQIAEAEEDKIKKT 2379427 DKSLHNRELSAERPLNEQIAEAEADKIKKA GI 413764
82 73	YPPENKPGOSNYSFVDNLNLLKAITEKEKI 2379427 FPSESKPSESNYSSVDNLNLLRAITEKETV GI 413764
88 명	EKERQSIRSSPLDNKLNVEDVDSTKNRKLI 2379427 EKERQSIRSPPFDNQLNVEDADSTKNRKLI GI 413764
118	DDYDSTKSGLDHKFQDDPDGLHQLDGTPLT 2379427 DEYDSTKSGLDHKFQDDPDGLHQLDGTPLT GI 413764
148 151	AEDIVHKIAARIYEENDRAVFDKIVSKLLN 2379427 AEDIVHKIATRIYEENDRGVFDKIVSKLLN GI 413764
178 181	LGLITESQAHTLEDEVAEVLQKLISKEANN 2379427 LGLITESQAHTLEDEVAEALQKLISKEANN GI 413764

#### FIGURE 3A

2379427	2379427	2379427	2379427	2379427	2379427	2379427
GI 413764	GI 413764	GI 413764	GI 413764	GI 413764	GI 413764	GI 413764
S YEEDPNKPTSWTENQAGKIPEKVTPMAAIQ	3 DGLAKGENDETVSNTLTLTNGLERRTKTYS	S EDNFEELQYFPNFYALLKSIDSEKEAKEKE	TLITIMKTLIDFVKMMVKYGTISPEGVSY	LENLDEMIALQTKNKLEKNATDNISKLFPA	PSEKSHEETDSTKEEAAKMEKEYGSLKDST	K D D N S N P G G K T D E P K G K T E A Y L E A I R K N I E K D D N S N L G G K T D E A T G K T E A Y L E A I R K N I E
1 YEETLDKPTSRTENQDGKIPEKVTPVAAVQ	1 DGFTNRENDETVSNTLTLSNGLERRTNPHR	LEDDFEELQYFPNFYALLTSIDSEKEAKEKE	TLITIMKTLIDFVKMMVKYGTISPEEGVSY	LENLDETIALQTKNKLEKNTTDSKSKLFPA	PPEKSQEETDSTKEEAAKMEKEYGSLKDST	
208	238	268	298	328	358	388
211	241	271	301	331	361	391

#### FIGURE 3B

WLKKHDKKGNKEDYDLSKMRDFINKQADAY 2379427 WLKKHNKKGNKEDYDLSKMRDFINQQADAY GI 413764 418

448 VEKGILDKEEAEAIKRIYSSL 451 VEKGILDKEEANAIKRIYSSL

2379427 GI 413764

#### FIGURE 3C

$\vdash$	MAAGLFGLSARRLLAAATRGLPAARVRWE 2744187 M RGLPAARVRWE GI 1771306
31	SSFSRTVVAPSAVAGKRPPEPTTPWQEDPE 2744187 SSRAVIAPSGVEKKRQREPTMQWQEDPE GI 1771306
61 41	PEDENLYEKNPDSHGYDKDPVLDVWNMRLV 2744187 PEDENVYARNPDFHGYDSDPVVDVWNMRAV GI 1771306
27	FFFGVSIILVLGSTFVAYLPDYRMKEWSRR 2744187 FFFGFSIVLVFGTTFVAYVPDYRMQEWARR GI 1771306
121	EAERLVKYREANGLPIMESNCFDPSKIQLP 2744187 EAERLVKYREVNGLPIMESNYFDPSKIQLP GI 1771306
151	EDE 2744187 EDD GI 1771306

#### FIGURE 4